1. PURPOSE OF AND NEED FOR ACTION

1.1 INTRODUCTION

1.1.1 The Federal Proposed Action

This Final Environmental Impact Statement (FEIS) has been prepared in support of a Federal licensing decision to be made by the U.S. Nuclear Regulatory Commission (NRC), in accordance with the National Environmental Policy Act of 1969 (NEPA), as amended. The decision is whether or not to approve Atlas Corporation's request for a license amendment on its proposed reclamation plan for on-site stabilization of uranium mill tailings at the Atlas site near Moab, Utah. The decision will be made after consideration of the analysis presented in this FEIS, which provides an environmental evaluation of the Atlas proposal and alternatives to that proposal. Atlas' proposed reclamation plan is referred to in this FEIS as the Atlas proposal. The NRC is the lead agency in preparing this FEIS, and the National Park Service (NPS) is a cooperating agency. The NPS does not necessarily agree with all analyses and conclusions presented in this FEIS.

A final Technical Evaluation Report (TER) evaluating the technical adequacy of Atlas' proposed design for tailings pile reclamation was published by NRC in March 1997 (NRC 1997). The TER evaluated engineering aspects of the Atlas proposal, while this FEIS assesses environmental impacts.

A Draft Environmental Impact Statement (DEIS; NRC 1996a) and a draft TER (NRC 1996b) were published and distributed for public comment in January 1996. A public meeting on the DEIS was held by NRC in Moab on February 28, 1996. Extensive comments on the DEIS were made at this meeting and in writing during the comment period that ended on April 30, 1996. Written comments are presented in Volume 2 (Appendix J) of this FEIS, and a summary of the comments and NRC responses to them are provided in Appendix A.

Subsequent to publication of the DEIS and in response to comments from the Department of the Interior (DOI) expressing concern about the data available for assessing impacts to endangered species, NRC prepared a Supplement to the Biological Assessment (Appendix B) containing updated data and analysis and submitted it to the U.S. Fish and Wildlife Service (FWS) in February 1997. As part of the consultation process under Section 7 of the Endangered Species Act, the FWS prepared a Draft Biological Opinion and a Revised Draft Biological Opinion that were reviewed and commented on by NRC and Atlas. The consultation process was completed in July 1998, when the FWS issued its Final Biological Opinion (Appendix C) which found that the proposed action would jeopardize the continued existence of four endangered fish species. The Final Biological Opinion included reasonable and prudent alternatives and measures to avoid jeopardy, which NRC will include as conditions of the license amendment should it be approved.

1.1.2 The Atlas Proposal

Atlas Corporation (Atlas) submitted an application to the NRC for an amendment to its existing NRC License No. SUA-917 covering the Atlas uranium mill and associated activities at the Atlas site located adjacent to the Colorado River near Moab, Utah (Fig. 1.1-1). The mill no longer operates and has been dismantled except for one building that is currently being used for office space. The nearby 9.5-million-metric-ton (10.5-million-ton) uranium mill tailings pile covers an area of about 53 ha (130 acres) and needs to be reclaimed for long-term disposal. The license amendment requested by Atlas would allow the licensee to (1) reclaim (stabilize) the tailings pile for permanent disposal in its current location on the Moab site, and (2) prepare the 160-ha
(400-acre) site, which includes both the tailings pile and the former mill site, for site closure. Atlas has submitted to NRC detailed tailings reclamation plans and environmental data in support of its amendment request. The latest revision of the reclamation plan was submitted to NRC in October 1996 (Smith Technology Corporation 1996). In accordance with Federal regulations, NRC must determine whether or not the Atlas proposal would comply with the requirements of Appendix A of 10 CFR Part 40 as discussed in Section 1.4 of this FEIS.

Under the Atlas proposal, the side slopes of the tailings pile would be reduced to 30 percent [i.e., 0.9 m (3 ft) vertical per 3 m (10 ft) horizontal] or less to minimize effects of erosion and possible earthquakes. Also, an earth and rock cover system would be installed over the pile to minimize radon escape, infiltration of rain water into the tailings, infiltration of tailings contaminants into groundwater, and tailings erosion potentially caused by surface runoff from direct precipitation and flooding of the Colorado River and a nearby ephemeral channel known as Moab Wash. Clay and rock cover materials would be obtained from three proposed borrow sites (see Fig. 1.1-1): Klondike Flat, also referred to as the Plateau site, (clay), Spanish Valley (small rock), and Kane Creek (large rock).

1.1.3 Alternatives

Disposal of tailings at the Atlas site in Moab has become an issue, primarily because the site is adjacent to the Colorado River and is near the town of Moab and Arches National Park. In 1979, when the FEIS for the operation of the Moab uranium mill was published (NRC 1979), the majority of agency and public comments supported the continued operation of the mill, and disposal of the tailings at an alternate site was not an issue (Appendix A in NRC 1979). However, during the scoping process for the present Environmental Impact Statement (EIS) (see Section 1.5 below), several government agencies and members of the public proposed that the tailings be transported to an alternate site for disposal. Several possible alternate sites were identified during scoping and subsequent discussions with agencies and individuals. It is not NRC’s role to select a specific alternate site or determine that the tailings must be moved to such a site. Rather, at this environmental stage in the licensing process, NRC's licensing decision is focused on reviewing Atlas’ proposed reclamation plan to determine if the Atlas proposal is technically sound and whether the Atlas site at Moab is environmentally acceptable for tailings disposal.

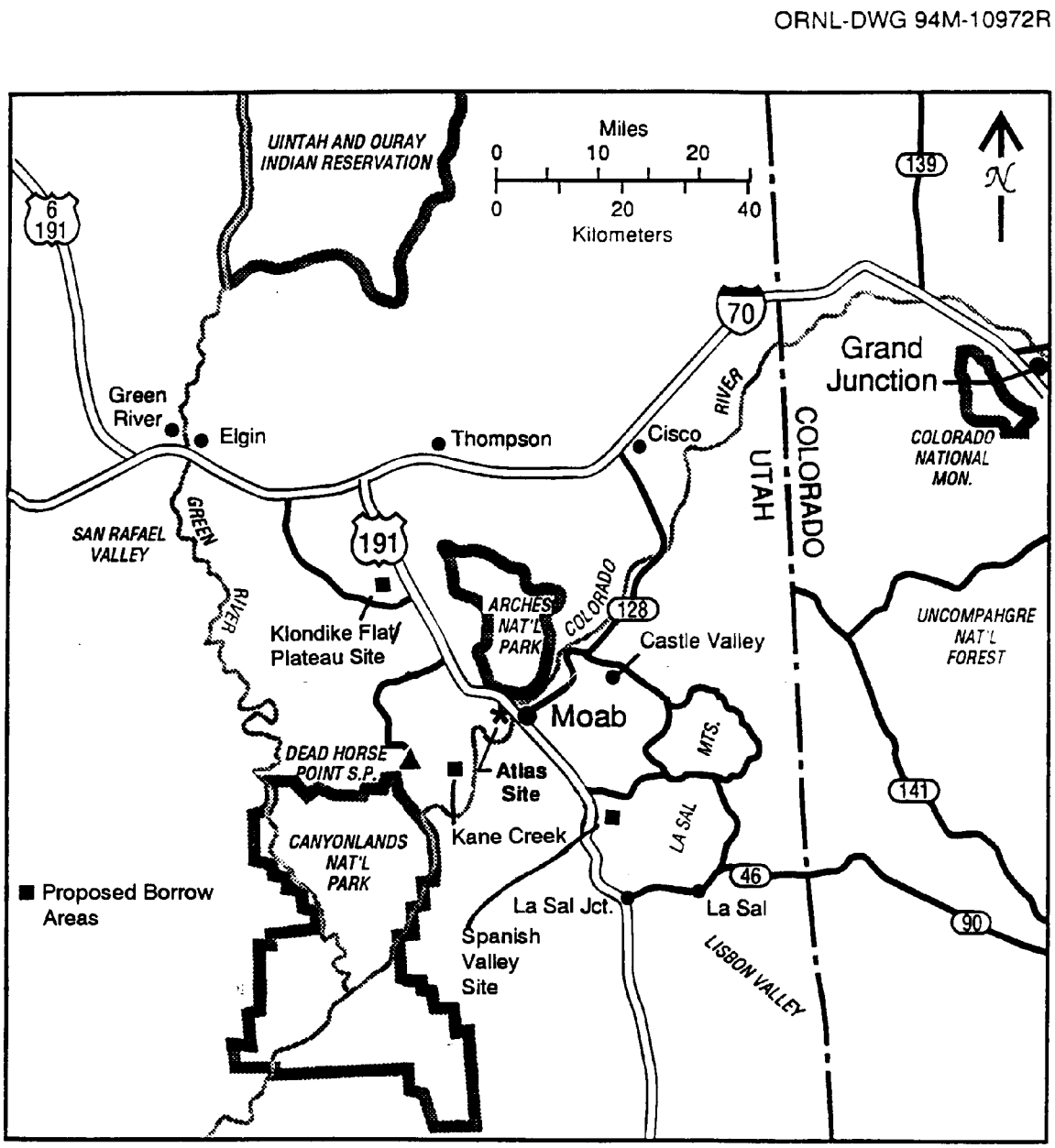

Figure 1.1-1. Regional Location of the Atlas Corporation Site Near Moab, Utah.

To provide a basis for evaluating the environmental acceptability of the Atlas proposal, this FEIS compares the proposed reclamation of the tailings pile on the Atlas site with the an alternative of moving the tailings for disposal to the Plateau site on Klondike Flats, approximately 29 km (18 miles) northwest of the town of Moab (Figure 1.1-1). The alternative of moving the tailings pile to the Plateau site was selected for evaluation on the basis of comments made during the EIS scoping process, discussions with other agencies and individuals, an NRC site visit, and other information. Under this alternative the tailings would be transported via an existing rail line to the vicinity of the Canyonlands airport, and then along a rail spur that would be built to connect the existing rail line to the Plateau site.

Under the no-action alternative, NRC would not approve a license amendment for on-site disposal at the Moab site as proposed by Atlas, and Atlas would cease management of the tailings. Because this alternative would not comply with NRC or environmental regulations and is not environmentally acceptable, it is not evaluated in detail in this FEIS.

1.1.4 Overview of Uranium Mill Tailings Hazards

A substantial amount of documentation is available dealing with the impacts of uranium milling and the resulting waste piles. The Atlas pile is not unique among tailing piles since the same processes were used that have been used for numerous other piles. Information from these other piles in terms of source (i.e., the pile) content of radioactive and nonradioactive materials, releases from these piles, and results of impact assessments for these piles are applicable to the Atlas pile except for site-specific factors. The integrated effects of site-specific factors are represented by the monitoring data that has been accumulated for the Atlas site. Characterization data for the Atlas pile confirm that the pile is similar to other piles.

The following selected references document the primary concerns that have been identified to be associated with uranium mill tailings piles in general and are referenced here for additional discussion of impacts:

- Final Generic Environmental Impact Statement on Uranium Milling (NUREG-0706), U.S. Nuclear Regulatory Commission, Washington, D.C.

- Final Environmental Impact Statement for Remedial Action Standards for Inactive Uranium Processing Sites (40 CFR Part 192).

- Summary of the Waste Management Programs at Uranium Recovery Facilities as they relate to the 40 CFR Part 192 Standards (NUREG/CR-4403).

- Scientific Basis for Assessment of Uranium Mill Tailings (NAS-NRC 1986).

- Correlation of Radioactive Waste Treatment Costs and the Environmental Impacts of Waste Effluents in the Nuclear Fuel Cycle for Use in Establishing "As Low as Practical"

Guides—Milling of Uranium Ores [ORNL/TM-4903; Generic Environmental Impact Statement on Uranium Milling, NUREG-0706 (1980)].

Most NRC NEPA documentation on licensing of uranium mills consists of EISs. Much of the DOE NEPA documentation under Title I of Uranium Mill Tailings Radiation Control Act of 1978, as amended (Pub.L. 95-604) (UMTRCA) concerning reclamation of uranium mill tailings piles consists of Environmental Assessments (EAs) rather than EIS. Approximately 30 EISs and EAs have been reviewed for information on impacts associated with various remediation alternatives.

Environmental documentation for other piles, monitoring data from the vicinity of the Atlas Pile, and the impact assessment presented in Section 4 of this FEIS support the following generic observations:

- Uranium mill tailings piles do not represent the high hazard potential that is associated with other components of the fuel cycle (e.g., reactors and spent fuel). The tailings are basically ground up materials typical of the areas where the ore was mined but with high levels of natural radionuclides relative to general average soil background levels. Levels of nonradioactive materials in the piles are typical of other ore recovery processes. Because the piles are of limited areal extent, doses from unremediated piles will be within the variation in background within 1 km (0.6 mile) of the piles. Total doses approach area background doses from normal area soils within 2 km (1.2 miles) from the piles.

- The primary impacts associated with uranium mill tailing piles, including the Atlas pile, are due to release of radon and subsequent ingrowth of the short-lived radon progeny.

- For dry uncovered piles, windblown particulate tailings releases can produce "tailing affected" areas of up to several hundred acres. Windblown tailings produce off-site doses through all pathways substantially less than the inhalation dose from radon progeny from the pile. The interim cover on the Atlas pile substantially reduces windblown tailings. Almost any measure that reduces radon emissions will eliminate windblown tailings.

- Releases of nonradioactive contaminants to air represent very small risks compared to radon progeny. Total particulate concentrations at 1 to 2 km (0.6 to 1.2 miles) from dry, uncovered piles are in the low microgram per cubic meter ($\mu g/m^3$) range. For the highest concentrations of nonradioactive toxic materials reported in these types of tailings, particulate air concentrations would range from picogram per cubic meter (pg/m^3) for the most toxic materials to nanogram per cubic meter (ng/m^3) for silicon. Because of the temporary cover on the Atlas pile, total particulate concentrations containing contaminants from the pile are much lower.

- Exposures to all toxic materials would be higher during removal of the pile compared to stabilization in place because greater quantities of tailings would be disturbed and exposed for a longer period of time.

- Doses via inhalation and external radiation can amount to 10–20 rems per year for continuous presence on or immediately adjacent to uncovered tailings piles. While this dose rate is more than an order of magnitude less than that which would result in immediate health effects, it is about two orders of magnitude higher than the 100 mrem/yr NRC limit for a member of the public. Direct access to the tailings pile that would result in continuous exposure is, therefore, unacceptable. During one period of time, it was common practice for tailings to be used as fill material under and around streets and buildings. Although the tailings were not considered to be an immediate danger, the practice was discontinued and numerous sites were remediated by removal of the tailings.

- If the Atlas tailings were dispersed to locations of human habitation (e.g., as a result of the extremely unlikely pile failure concurrent with the hypothetical flood, as discussed in Section 2.1.8 of this FEIS), then areas of tailings deposition likely would have to be cleaned up. Monitoring of contaminated areas (e.g., agricultural lands, residential area, shorelines) would be necessary to establish the extent of cleanup required. Cleanup in and along the river could be more difficult than for tailings displaced by human activities.

Although potential impacts through other pathways for both radioactive and non-radioactive materials are expected to be small relative to inhaled radon progeny, some comments on the DEIS suggested that the Atlas pile could be unique compared to other piles. While operational information and available characterization data provide no evidence that the Atlas pile is unique compared to other mill tailings piles, some commenters felt that a full characterization of the pile was necessary. Because of these concerns, staff have included additional information in Appendix D to support the conclusion that the Atlas pile is generally similar to other piles and exhibits similar characteristics related to potential site-specific impacts.

1.2 PURPOSE OF AND NEED FOR ACTION

In accordance with the UMTRCA and with NRC regulations (Section 1.4), NRC is required to act upon the license amendment request from Atlas. The purpose of NRC's licensing action is to determine whether Atlas has acceptably demonstrated that its proposal meets the requirements of Appendix A to 10 CFR Part 40, as they apply to existing sites, and whether the Moab site is environmentally acceptable for tailings disposal.

The Atlas uranium mill ceased operations in 1984 and except for one building has been dismantled. The tailings must be reclaimed adequately for long-term stability. The need for reclamation is to minimize the escape of hazardous substances into the surrounding environs to the extent feasible. To abandon the tailings pile at this time with no further environmental control (i.e., the no-action alternative) is not legally or environmentally acceptable.

The mill tailings pile contains high-volume, low-activity materials and elements that could be hazardous to the environment and public health. These substances are currently escaping the tailings

pile at low rates. Tailings leachates are slowly diffusing downward into groundwater, some of which moves horizontally and enters the Colorado River. Radioactive radon gas slowly escapes the tailings pile and enters the air. To minimize environmental contamination, Atlas has conducted a number of environmental control and corrective action programs, including placement of an interim cover on the tailings to prevent movement of contaminated windblown materials from the pile. Additional environmental protection measures are needed, however, for long-term tailings stabilization and disposal.

The purpose of the tailings-reclamation action (either the Atlas proposal or an alternative) considered in this FEIS is to minimize the potential for environmental and public health impacts posed by the existing tailings pile. This purpose can be satisfied only by appropriate reclamation of the tailings pile, either at the Moab site or an alternate site.

1.3 HISTORY AND CURRENT STATUS OF THE MOAB MILL FACILITY AND OPERATIONS

The Atlas Moab Mill is located on the west bank of the Colorado River about 5 km (3 miles) northwest of Moab. The property and facilities were originally owned by the Uranium Reduction Company that was acquired by Atlas Corporation in 1962. Atlas owns approximately 160 ha (400 acres) including the approximately 80 ha (200 acres) on which the mill and tailings are located. Atlas activities at the Moab Mill site are covered by the NRC Source Material License SUA-917, which was renewed in 1988. The mill ceased ore milling operations in 1984. The principal Atlas and NRC documents supporting the source material license are listed in Appendix E.

Initial tailings pond construction was completed in 1956, and, with the exception of brief periods, tailings were disposed in the pond continuously from initial start-up in October 1956 until the mill ceased operations and was placed on standby status in 1984. The tailings pile has been maintained since that date under various conditions of the Atlas Source Material License. The pile has five embankments that were raised to their present elevation of 1237 m (4058 ft) above mean sea level (amsl) after the 1979 license renewal. A 5.5-m (18-ft) raise in embankment elevation to a projected final elevation of 1242 m (4076 ft) was reviewed and approved under License Amendment No. 7 dated June 30, 1982. However, the embankment raise was never initiated, because the added capacity was not needed when the mill subsequently entered a long-term shutdown status.

During early operations, Atlas utilized an acid leach process for uranium milling. At that time, lime was added to the mill tailings to help neutralize the tailings. In 1961, an alkaline leach process was initiated. In 1967, a new acid leach circuit was installed and, for a period of time, both the acid circuit and an alkaline circuit were operated. Up to this point, as much as 4921 L/m (1300 gpm) had been taken from the Colorado River under Atlas' Water Rights, used in the process, treated, and then discharged back into the Colorado River (Atlas 1973). Around 1974, Atlas began modifying various process circuits to reduce the total amount of water used in the milling and processing operations to eliminate the direct discharge of waste water into the Colorado River. After these modifications, which

included recycling process waters, approximately 492 L/m (130 gpm) of river water were used for the mill. At this reduced rate, evaporation and seepage from the tailings pile were adequate to handle the waste water stream and there was no need to directly discharge waste water into the Colorado River (Atlas 1973). From 1982 through 1984, only an acid leach process was used with no neutralization of process water because of the process water recycling practices.

The NRC required Atlas to initiate a groundwater detection monitoring program and a compliance monitoring program in 1988, in accordance with the revisions to Appendix A of 10 CFR Part 40. As a result of these monitoring programs, Atlas was required to develop and initiate a groundwater corrective action plan (CAP) designed to bring the identified groundwater contamination to within standards established in the license and NRC's regulations.

Two site-specific conditions discovered during previous hydrogeological characterization efforts restricted the number and type of groundwater corrective action measures that could be applied at the site. The occurrence of brine in the lower portion of the alluvial aquifer presented limitations on the amount of groundwater pumping that could be accomplished in the shallower portions of the aquifer, without drawing the brine into the groundwater collection wells. In addition, the fine-grained nature of the shallower portion of the alluvium presented limitations to effective recovery of contaminated ground water. These two circumstances led NRC to approve a CAP that focused on reducing the seepage from the tailings by removing the free water surface and dewatering the tailings. A CAP that included an enhanced evaporation system, a toe drain system, and a series of dewatering wells in the tailings was approved in July 1989. The dewatering wells were approved as a pilot project, with the stipulation that Atlas would need to propose additional dewatering measures, such as wick drains in the tailings, if the dewatering wells proved ineffective.

The CAP was modified in 1993 to discontinue the enhanced evaporation system, because the free water surface was reduced to the point that it could not be pumped and the toe drains were deleted from the license because they had ceased collecting water. The license was also amended at a later time to allow the disposal of radioactive contaminated solid waste in the south sump pit of the toe drain system. The dewatering wells remained in operation, but have shown a decrease in effectiveness through time. Approximately 6,515,000 L (1,721,000 gals) of tailings water were removed from the tailings through the dewatering wells in 1992, and approximately 2,419,000 L (639,237gal) in 1998, demonstrating a reduction in the system's effectiveness because of the corresponding reduction in pressure head levels in the pile.

NRC notified Atlas (NRC 1996c) that a revised CAP would be needed to address groundwater contamination in the alluvial aquifer. NRC considers the revision of the CAP as a separate, independent licensing action from the reclamation approval, because the cleanup of contaminated groundwater must be addressed whether the tailings are reclaimed on site or relocated. Also, the feasibility of engineering remedies that could be applied to groundwater cleanup would not be impacted by the location of the tailings, since the constraints limiting groundwater cleanup are aquifer characteristics unique to the site. The revised CAP will address what can be done to cleanup

contamination currently in the groundwater and must be developed regardless of whether the tailings are reclaimed on site or moved to an alternate site.

The CAP and monitoring programs are mandatory by licence conditions 17 and 55, which describe the groundwater program for the site. The groundwater program includes the establishment of groundwater quality standards, point-of-compliance wells, a background well, sampling frequency, groundwater sampling points, and selected constituents for which the groundwater was to be analyzed. The projected date for completion of all groundwater corrective actions, as specified in license condition 55 is December 1998, but this date was not achieved and will need to be changed after Atlas submits the revised CAP.

In the DEIS, the NRC did not conduct a detailed analysis of the groundwater system. Instead, the DEIS presents an assessment of the impacts on the Colorado River from existing contamination in the aquifer at the site. This assessment was based on actual data measured by the State of Utah in the groundwater seep located in the mouth of Moab Wash. No credit was given for completion of the currently required groundwater program, or the cleanup of groundwater to established Federal standards. Because of this, the DEIS presented a conservative, bounding assessment of the environmental impacts. The DEIS reached the conclusion that the impacts to the Colorado River from the existing groundwater contamination were acceptable. Once the tailings were capped, and the seepage of contamination significantly reduced, the groundwater contaminant levels would lessen, and situation in the Colorado River would improve.

Since the publication of the DEIS, there continues to be a concern that NRC is not addressing the cleanup of current groundwater contamination. As discussed above, there is currently an NRC required groundwater cleanup program in the Atlas license. However, because that program has not been effective in cleaning up the current level of groundwater contamination, the NRC has required Atlas to revise the current groundwater corrective action program and identify ways to accelerate cleanup of current day contamination. As also discussed above, that cleanup must be undertaken regardless of whether the tailings are reclaimed on site, or are relocated to an alternate site. Thus any revision to the groundwater cleanup program is independent of the decision concerning on-site reclamation of the tailings.

The action that is the subject of this FEIS (tailings reclamation) considers, among other things, the ability of the Atlas proposal to keep groundwater within standards over the next 1000 years. This is accomplished by separately examining the effects the proposed action would have on the groundwater system, without applying additional groundwater corrective action measures. The application of active groundwater cleanup measures are limited in time and could not be relied upon to keep the groundwater within standards for the 1000 year design life. The Atlas proposal must show that groundwater would ultimately achieve and remain within standards. If a proposed action would rely on a short-term groundwater corrective action to achieve standards, but could not show that the groundwater continued to meet the standards over the reclamation design life, then the action could not be approved.

The application of groundwater cleanup measures are viewed as a means accelerating the time needed to achieve compliance with the groundwater standards, if the Atlas proposal can demonstrate that groundwater constituent concentrations would not rise above standards once the standards were met. Accelerating the time for groundwater to achieve standards is applied independently of the engineering construction of the approved reclamation design.

Atlas has conducted cleanup of windblown tailings and other contaminated soils in several areas on the site. These areas were along the west side of State Route (S.R.) 279, between the tailings pile and the highway, an area northwest of the tailings pile, and an area of about 3 ha (7 acres) southeast of the tailings pile. Cleanup involved excavating the windblown tailings and contaminated soils and placing them on the tailings pile. Additional cleanup of on-site and off-site contaminated windblown materials will be conducted as part of the reclamation activities.

1.4 FEDERAL AND STATE AUTHORITIES, REGULATIONS, AND PERMITS

Title II of UMTRCA, as amended, authorizes the NRC to enforce decontamination, decommissioning, and reclamation standards on new licenses or relicensing actions for uranium mill and mill tailings sites. NRC regulations in Appendix A to 10 CFR Part 40 establish criteria for the technical aspects, finance, ownership, and long-term site surveillance relating to the siting, operation, decontamination, decommissioning, and reclamation of uranium milling facilities. Each site-specific licensing decision is to be based on the criteria, taking into account public health and safety and the environment. A detailed discussion of the applicability of these criteria to the Atlas proposal is provided in Appendix A of the final TER (NRC 1997).

Appendix A to 10 CFR Part 40 provides flexibility in the NRC regulatory program in several ways. It allows licensees to propose alternatives to the specific requirements contained in the appendix as long as an equivalent level of protection of public health is provided. It also requires that licensing decisions take into consideration the economic costs involved (this requirement originates in the Atomic Energy Act of 1954, as amended). One of the reasons for this flexibility was the recognition that some of the regulations in Appendix A could not be applied to existing sites in the same manner as applied to proposed sites. The Generic Environmental Impact Statement on Uranium Milling, NUREG-0706 (1980), explicitly discussed this. As a result, the criteria in Appendix A to 10 CFR Part 40 that identify goals, as opposed to specific numerical requirements, are applied to existing sites with the recognition that the goal may not be met to the extent that it would for a new proposed site.

In the case of the Atlas proposal for tailings reclamation at the Moab site, NRC staff reviewed the licensee's proposed design and cover materials for the reclaimed tailings pile to independently determine whether the licensee has acceptably demonstrated that its proposal would meet the applicable criteria. Results of that review are documented in the final TER (NRC 1997). Regulations state that NRC will approve a reclamation plan proposed by a licensee if the NRC evaluation documented in the final TER demonstrates compliance with the Appendix A criteria and if the environmental impacts are appropriately considered, in conformance with 10 CFR Part 51, and found to be acceptable.

Before the site can be transferred to DOE or the State of Utah for long-term care, or before any part of it can be released for unrestricted use, the licensee must demonstrate that groundwater has been cleaned up to acceptable standards, in addition to the soil cleanup and tailings reclamation. Atlas is currently implementing an NRC-required groundwater cleanup program, which requires Atlas to dewater the tailings using a pump and evaporate system, cap the tailings to reduce the source of contamination, and allow the groundwater to naturally flush to the steady-state conditions.

As part of compliance with Appendix A of 10 CFR Part 40, the licensee may propose alternate concentration limits (ACLs) as groundwater protection standards that present no significant hazard to the environment and public health. NRC regulations state that an ACL will be approved if NRC, after considering practicable corrective actions, determines that the proposed ACL is as low as reasonably achievable (ALARA) and that the constituent will not pose a substantial present or potential hazard to human health or the environment as long as the ACL is not exceeded. Before approving ACLs, NRC must consider numerous factors that are listed in Appendix A to 10 CFR Part 40. Atlas is in the process of preparing an ACL application for its proposed reclamation.

The Atlas proposal would require a number of permits, licenses, or approvals from various agencies in addition to the NRC (listed in Table 1.4-1). NRC regulations in 10 CFR Part 20 Subpart D specify radiation dose limits for individual members of the public during reclamation. No unrestricted area may have a radiation level that would result in a dose from external sources to an individual exceeding 0.02 mSv (0.002 rem) in an hour, 0.5 mSv (0.05 rem) in a year, or a total effective dose equivalent of 1 mSv (0.10 rem) in a year. The licensee is required to perform monitoring or calculations needed to demonstrate compliance. The Utah Division of Radiation Control, Department of Environmental Quality (DEQ), has jurisdiction concurrent with NRC over non-radiological groundwater constituents.

1.5 RESULTS OF SCOPING AND COMMENTS ON THE DRAFT EIS

1.5.1 The Scoping Process

In July 1993, NRC issued an EA evaluating the licensee's revised reclamation plan for on-site disposal of mill tailings. Also in July 1993, the NRC published a finding of no significant impact (FONSI) in the *Federal Register* in anticipation of approving the revised reclamation plan. NRC received more than 20 letters opposing the proposed action and wanting additional evaluation and consideration of issues. As a result, NRC rescinded the FONSI by a *Federal Register* notice in October 1993, decided to prepare an EIS, and requested additional information from Atlas to support NRC's technical and environmental evaluation of the Atlas proposal. On March 30, 1994, the NRC published in the *Federal Register* (*Fed. Reg.* **59**:14912) a notice of intent (NOI) to prepare an EIS for the proposed reclamation of tailings and to conduct scoping for the EIS. The alternatives identified in the NOI were (1) on-site reclamation (the licensee's proposal), (2) off-site disposal at an alternate site, and (3) no action. The scoping process for the DEIS was conducted in accordance with 10 CFR Part 51,

which contains the NRC requirements for implementing the regulations of the Council on Environmental Quality (CEQ) under NEPA. A public scoping meeting was held at Starr

Table 1.4-1. Applicable Permits, Licenses, and Approvals

Permits, licenses, or approvals	Granting or approving authority	Status
Approval for disposal of nonradiological demolition solid wastes (i.e., roofing, lumber, blocks, brick, metal, etc.)	State of Utah and local authority	Approvals will be pursued upon identification of waste types, estimated quantities, and disposal site selection
Approval for disposal of domestic or municipal-type solid wastes (i.e., paper, garbage, glass, etc.)	State of Utah and local authority	Approvals to be obtained
Approval for disposal of miscellaneous nonradiological "hazardous" and/or "problem" solid waste (i.e., oils, grease, solvents, polychlorinated biphenyls, caustics, etc.)	U.S. Environmental Protection Agency (EPA), State, and/or local authority	Approvals will be pursued upon identification of waste types, estimated quantities, and disposal site selection
Clean Water Act, Section 401 (State water quality certification)[a]	State of Utah	Undetermined at present
Clean Water Act Section 404 (dredge and fill permit)[a]	U.S. Army Corps of Engineers	Approvals to be obtained, as needed
Approval for excavation of borrow materials	State of Utah	Undetermined at present
Consultation under Section 106 of the National Historic Preservation Act	State Historic Preservation Officer	Initial consultation completed; followup letter on Kane Creek borrow area has been sent
	Advisory Council on Historic Preservation	Need to consult not expected

Threatened and endangered species consultation	U.S. Fish and Wildlife Service (FWS) (Department of the Interior)	Biological Assessment and Supplement submitted; Final Biological Opinion requires reasonable and prudent alternatives and measures to avoid jeopardy to endangered species
National Pollution Discharge Elimination System permit[a]	State of Utah Department of Environmental Quality	Permit application will be submitted by Atlas as applicable following finalization of design and mitigation plans
Approval of plans and specifications for water pollution control facilities	State of Utah Department of Environmental Quality	To be submitted by Atlas as applicable following finalization of design and mitigation plans

[a]A recent federal court decision may obviate the need for these permits.

Hall in Moab, Utah, on April 14, 1994. About 43 people (not including people who represented government agencies) attended the meeting, and 8 individuals gave oral comments. The NRC also solicited written suggestions and comments from the public and interested agencies, organizations, and individuals to be submitted by May 13, 1994, for consideration in the EIS process.

During the scoping process, several commenters stated that the licensee's proposed reclamation plans for the tailings were inadequate and that reclamation at the Moab site would be inconsistent with NRC policy provided in Appendix A to 10 CFR Part 40. Major issues raised in the scoping process included effects of flooding and earthquakes on the tailings pile, possible pile failure resulting in the spilling of tailings into the Colorado River and impacts on downstream water use, leaching of tailings contaminants into groundwater and the river, transport of rock riprap from Castle Valley, and impacts on tourism and the local economy.

Most commenters wanted the tailings transported to an alternate site and the Moab site cleaned up to allow future commercial use of the site. The alternative favored by the commenters was transport of the tailings by rail and disposal at the Plateau site about 29 km (18 miles) northwest of Moab. Many commenters wanted a thorough cost-benefit comparison of alternatives and the Atlas proposal. Upon completion of the scoping process NRC determined that the EIS would consider all of the environmental and socioeconomic issues raised during the scoping period, although some issues would receive more extensive treatment than others because of their complexity or importance. NRC also determined that the issues of tailings pile stability and safety would be addressed primarily in the final TER rather than in this FEIS. A more detailed summary of the scoping comments is presented in Appendix F.

1.5.2 Comments on DEIS

At the end of January 1996, the DEIS was made available for agency and public comment. A public meeting was held in Moab on February 28, 1996, to receive comments, and a transcript was made of the proceedings of that meeting. The transcript was subsequently made available to the public at the Moab library and at the NRC reading room. The period for receiving written comments ended on April 29, 1996. Two hundred forty-five comment letters on the DEIS were received during the comment period and are reproduced in Volume 2 (Appendix J) of this FEIS. Specific comments in these letters are identified by number in Volume 2. Staff have reviewed the comments made by the 38 speakers at the public meeting and determined that the written comments cover all substantive issues raised during the public meeting. Therefore, the transcript is not reproduced in Volume 2. Written comments have been summarized by staff in Appendix A of this FEIS, and staff responses are presented along with the summarized comments in this appendix. The FEIS takes into consideration the comments

made on the DEIS and incorporates modified and new information and analyses as deemed appropriate by staff.

In its comment letter on the DEIS dated May 8, 1996 (Appendix A), the Environmental Protection Agency (EPA) gave the DEIS a rating of EO-2, with the EO indicating environmental objections. EPA indicated in this letter that they would amend the rating to an EC-2 (environmental concerns) if it could be demonstrated that contaminated groundwater was not migrating under the Colorado River and significantly affecting the Scott Matheson Wetlands Preserve. At a meeting on September 24, 1996, Atlas and its consultant, Harding Lawson and Associates (HLA), provided data and analysis that addressed this concern. A letter summarizing this information was then sent to EPA on October 1, 1996. In a letter dated November 14, 1996, EPA informed NRC that they had reviewed the material provided by Atlas and HLA and concluded that the water in the Scott Matheson Wetlands Preserve apparently has not be influenced by leachates from the mill tailings site. The EPA letter (Appendix G) revised the rating of the DEIS to EC-2. Subsequently, at the request of the NPS, the U.S. Geological Survey reviewed this issue and concluded in a January 30, 1997, letter that there is no potential for shallow groundwater from the Atlas side of the Colorado River to discharge to the wetlands.

1.5.3 Scope of the EIS

The scope of this EIS is focused on the potential environmental impacts and environmental suitability of tailings disposal (with subsequent site closure) at the Moab site and an alternate site. The adequacy and safety of Atlas' proposed design of the tailings pile is addressed in the final TER (NRC 1997). This EIS has been prepared in compliance with NEPA, the CEQ regulations for implementing the procedural provisions of NEPA (40 CFR Parts 1500–1508), and NRC's NEPA regulations (10 CFR Part 51).

This FEIS compares the Atlas proposal with the alternative of tailings disposal at the Plateau site (Figure 1.1-1) for which only reconnaissance-level information is available. Other alternate sites are analyzed in less detail than the Plateau site. The Commission has determined that the use of reconnaissance-level information is appropriate for evaluating alternatives. This is because the NRC would reject a proposal only if it was found unacceptable after a detailed review, or if the alternative was found obviously superior. Evaluating an alternative at a reconnaissance level will identify any significant differences that would make it obviously superior to the proposal under consideration. An alternative site would not be approved based on the review of reconnaissance-level information. However, as explained above, the selection of an alternate site for actual disposal of the Atlas tailings is not within the scope of the EIS. Should NRC not approve the Atlas proposed on-site reclamation plan, additional environmental evaluation would be required for any alternate plan submitted by the licensee.

Therefore, the Commission has determined that there is no need for a detailed evaluation of the alternatives considered in an EIS.